

ABSTRACT

Disclosed is a method of forming an isolation film in a semiconductor device. In the process of forming a stack structure of a pad oxide film and a pad nitride film that expose a semiconductor substrate in an isolation region, protrusions of a tail profile are formed at the bottom sidewalls of the pad nitride film and the pad oxide film adjacent to the surface of the substrate, and top corners of a trench are made rounded using the protrusions as an anti-etch film when the substrate is etched. Therefore, it is possible to prevent concentration of an electric field on the top corners of the trench and prohibit generation of the leakage current. Accordingly, reliability of the process and electrical characteristics of the device could be improved.